

Superfund Post-Decision Proposed Plan



UNIVERSAL OIL PRODUCTS (Chemical Division) SUPERFUND SITE

**Borough of East Rutherford
Bergen County, New Jersey**

New Jersey Department of Environmental Protection

June, 1998

PURPOSE OF PROPOSED PLAN

This Post-Decision Proposed Plan describes the proposed changes to the soil remedy in the September 1993 Record of Decision (ROD) for the Universal Oil Products Site issued by the U.S. Environmental Protection Agency (USEPA) and the NJ Department of Environmental Protection (NJDEP).

The 1993 ROD selected remediation of Polychlorinated Biphenyl (PCB) and carcinogenic Polycyclic Aromatic Hydrocarbon (cPAH) contaminated soils by on-site thermal desorption of highly contaminated soil and placement of treated soils on site; soil cover for less contaminated soils; and institutional controls.

This Post-Decision Proposed Plan recommends that the remaining 6,300 tons of polychlorinated biphenyls/polycyclic aromatic hydrocarbons (PCB/PAH)-contaminated soils above remediation goals be disposed of off-site. Soil with total PCB levels at or above 50 mg/kg will be transported and disposed of in a TSCA landfill. Soils with levels above 2mg/kg and below 50 mg/kg will be disposed of in a permitted Sub-Title D landfill.

COMMUNITY ROLE IN SELECTION PROCESS

NJDEP is issuing this Proposed Plan as part of its community relations program under Section 117(a) of the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA). This Proposed Plan summarizes information that can be found in greater detail in the Remedial Investigation and Feasibility Study (RI/FS) and other documents contained in the Administrative Record for this site. A responsiveness summary addressing the public comments will be issued as part of a ROD Amendment, which will document the appropriate response actions for the site. The NJDEP relies on public input to ensure that the concerns of the community are considered in selecting an effective remedy for this Superfund site. This Post-Decision Proposed Plan is being distributed to solicit public comments regarding proposed changes to the soil remedy selected in the 1993 ROD. The public comment period will begin on June 17, 1998 and continue through July 17, 1998. A public meeting will be held during the public comment period at the East Rutherford Municipal Building located at 1 Everett Place on June 30,

1998 at 7:00 PM to discuss the basis for the recommended changes.

Consideration of public comments will be provided in a responsiveness summary that will be issued as part of a ROD Amendment. Modification of the proposed changes in the remedy may be considered based on public input.

All written comments should be addressed to:
Elizabeth Mataset, Community Relations Coordinator
NJDEP - Bureau of Community Relations
401 E. State Street
P.O. Box 413
Trenton, NJ 08625

Dates to remember:

MARK YOUR CALENDAR

Start Date: June 17, 1998

End Date: July 17, 1998

Public comment period on the Post Decision
Proposed Plan

June 30, 1998

Public Meeting at the East Rutherford

Municipal Building

1 Everett Place

East Rutherford, NJ 07073

SITE BACKGROUND

Universal Oil Products (UOP) is a 75 acre site located in the Borough of East Rutherford, Bergen County, New Jersey. A portion of the site is located in the Hackensack Meadowlands District, which is administered, in part, by the Hackensack Meadowlands Development Commission.

The UOP property is flat (elevations vary from 4 to 9 feet above mean sea level) and partly covered by tidal salt marsh. A system of natural and artificial surface-water channels crosses the property. The property was developed as an industrial facility in 1932. The property usage remained industrial until operations ceased in 1979.

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Undeveloped tidal marshes, highways, and commercial and light industrial properties surround the UOP property. Located immediately to the north of the property is the Matheson Air Products facility, a metal finishing facility, a truck and car repair shop, and a hotel; located to the east are Berry's Creek and tidal marshes; located to the south are commercial properties; and located to the west is New Jersey Route 17. West of Route 17 are a Becton Dickinson manufacturing facility and commercial properties. The closest residential area is approximately one-half mile to the west of Route 17.

Copies of all technical documents related to this Post-Decision Proposed Plan are available at the following repositories:

East Rutherford Municipal Building
1 Everett Place
East Rutherford, NJ 07073
(201) 933-3444

East Rutherford Memorial Library
143 Boiling Springs Avenue
East Rutherford, NJ 07073
(201) 939-3930

NJ Department of Environmental Protection
Bureau of Community Relations, Floor 6-West
401 East State Street, P.O. Box 413
Trenton, NJ 08625
(609) 984-3081
Hours: Mon-Fri 8 AM To 4 PM
Contact: Ms. Elizabeth Mataset

The UOP site occupies part of the Berry's Creek drainage basin. An Environmental Impact Statement (EIS) was prepared for the adjacent New Jersey Sports and Exposition Complex (Jack McCormick and Associates, 1978). That report described the various natural resources found in the area of UOP. Many flora and fauna are found in the vicinity of the UOP site including dense strands of common reed grass, other various wetlands plant species, sixty-five kinds of birds, many mammals, one amphibian and three reptile species.

As stated above, the site is crossed by various man-made and natural channels, commonly referred to as Ackerman's Creek that drains to Berry's Creek, a tributary to the Hackensack River. These surface water bodies are all tidally affected and have relatively high salinity concentrations. Wetlands exist on the site. Due to its location, the site is regularly subject to tidal flooding.

Ground water at the site exists in two units. The upper unit consists of a layer of fill on top of an organic layer called meadow mat. This unit at UOP is isolated horizontally by the on-site surface water bodies and is generally brackish. Also, due to the nature of the fill material, aquifer yields are very low in this formation. For these reasons, the shallow aquifer in the vicinity of the site has never been developed for potable use. The lower unit, which consists of the deeper aquifer, located in the Brunswick formation, is separated from the shallow aquifer by approximately 100 feet of varved clay.

Due to the site's location in the Hackensack Meadowlands, a regional discharge area, the vertical hydraulic gradient tends to be upward.

SITE HISTORY AND ENFORCEMENT ACTIVITIES

The property was developed in 1932 by Trubeck Laboratories, which built an aroma chemicals laboratory. Trubeck began operating a solvent recovery facility and handling waste chemicals in 1955. In 1956 Trubeck constructed a wastewater treatment plant, and in 1959 began utilizing two wastewater holding lagoons. UOP Inc. acquired the property and facilities in 1960. Use of the waste treatment plant and wastewater lagoons ceased in 1971. In 1980 all structures, except concrete slabs and a pipe bridge over the railroad tracks, were demolished. During the years of operation, both the wastewater lagoons and routine handling of raw materials and wastes resulted in the release of various hazardous substances to the soils and shallow ground water.

NJDEP has overseen activities at the UOP site since 1982 under various Administrative Consent Orders (ACOs). The site was listed on the National Priorities List (NPL) on September 8, 1983. Current site work is being performed under a May 23, 1986 ACO between NJDEP and UOP. Activities performed under this ACO have included the investigations of soil, ground water, site stream channels, and removal of the two wastewater lagoons in 1990, and thermal desorption of approximately 8,200 tons of PCB/cPAH contaminated soils.

RESULTS OF THE VARIOUS STUDIES

To facilitate investigations, the UOP site has been divided into six areas: Areas 1, 1A, 2, and 5 are the uplands area of the site; Area 3 is the former waste lagoons associated with the waste water treatment plant; and Area 4 is the on-site stream channels. These areas are shown in Figure 1-2. The remedial investigation (RI) for the upland area soil at the UOP site has been performed in three phases. Phase I investigations were performed in 1984, Phase II investigations were performed in 1985, and Phase III investigations were performed in 1988. Phase I initially characterized contamination distribution at the site. Investigations performed subsequent to Phase I built upon information from previous phases and filled in any data gaps that existed. The results of the first two phases are presented in the 1988 or Phase III RI report. The 1988 RI report serves as the main RI document. Remedial activities related to Areas 3 and 4 are being performed separately due to their unique qualities including different geographical locations, contaminants of concern, and physical characteristics (i.e., stream beds could not be investigated/remediated in a manner similar to soils).

The remedial investigations of the uplands area soils included the taking of soil samples to delineate the extent of contamination. The remedial investigations made several conclusions concerning the PCB/cPAH contamination:

1. Carcinogenic PAHs were detected in Area 5 soils (see Table A for a list of carcinogenic PAHs). These cPAHs were detected to levels of up to 1474 ppm.
2. Area 5 samples also indicated that shallow soils were contaminated with PCBs. PCBs were detected at levels ranging from BDL (below detection limits) to greater than 2000 ppm. The area with elevated PCBs overlaps the area with elevated levels of cPAHs.
3. Area 2 was contaminated with PCBs.

REMEDIAL ACTION OBJECTIVES

Remedial action objectives are specific goals to protect human health and the environment. The following remedial action objectives were established for the PCB/cPAH contaminated soils:

- Human health and the environment must be protected.
- Remediation goals for soils (see Table A) must be met.

SCOPE AND ROLE OF ACTION

This is a proposed amendment to the September 1993 ROD for the Universal Oil Products site. The ROD for the site was issued on September 30, 1993.

EXISTING REMEDY (THERMAL DESORPTION) SELECTED IN THE 1993 ROD

The existing remedy consists of a combination of treatment of soils highly contaminated with PCBs/PAHs and on-site containment of treatment residuals and less contaminated soils. Highly contaminated soils defined as those with PCB concentrations greater than 25 mg/kg and total cPAHs greater than 29 ppm, are to be treated by on-site thermal desorption. Under the existing remedy, thermal desorption is to, at a minimum, reduce PCB concentrations to less than 10 ppm and total cPAHs to less than 20 ppm. Less contaminated soils, with PCB concentrations greater than 2 ppm and less than 25 ppm and cPAHs greater than those in Table A, are to be placed under a two foot soil cover and are subject to deed restrictions on that portion of the site. Treatment residuals are also to be placed under the soil cap.

The 1993 ROD also specified treatment of volatile organic contaminated soils by on-site thermal desorption also. No change in this remedy is proposed for volatile organic contaminated soils.

REMEDIAL ACTIONS IMPLEMENTED TO DATE

In 1990 a removal action was performed by the responsible parties with NJDEP oversight that consisted of the excavation and off-site disposal of two waste lagoons.

In 1996 the work associated with the remedy selected in the 1993 ROD began. A thermal desorption unit treated 8,200 tons of PCB/cPAH contaminated soils however, there were many operational problems with the unit, and workers from an adjacent facility made complaints regarding the odors from the treatment plant. In 1997 the plant was removed from the site because of these problems and no additional soil has been treated since then.

A portion of the soil remedy in the 1993 ROD consisted of a soil covering for soils with PCB levels above 2 ppm but below 25 ppm or with cPAH levels above the remediation goals but below 29 ppm, as well as capping soils following treatment. To date 9,700 tons of soil have been capped.

PROPOSED REMEDY

The proposed remedy consists of off-site disposal of the PCB and carcinogenic PAH contaminated soils above levels in Table A. Soil with total PCB levels at or above 50 mg/kg would be transported and disposed of in a TSCA landfill. Soils with PCB levels above 2 mg/kg and below 50 mg/kg would be disposed of in a permitted RCRA Subtitle D landfill. Soils already capped will remain on site.

COMPARISON OF EXISTING REMEDY (THERMAL DESORPTION) TO THE PROPOSED REMEDY (OFF- SITE DISPOSAL)

CERCLA requires that each selected site remedy be protective of human health and the environment, be cost effective, comply with the requirements of other environmental statutes, and utilize permanent solutions and alternative treatment technologies or resource recovery alternatives to the maximum extent practicable. In addition, the statute includes a preference for treatment as a principal element for the reduction of toxicity, mobility, or volume of the hazardous substances.

During the detailed evaluation of remedial alternatives, each alternative is assessed against the following nine evaluation criteria: overall protection of human health and the environment; compliance with applicable or relevant and appropriate requirements; long-term effectiveness and permanence; reduction of toxicity, mobility, or volume; short-term effectiveness; implementability; cost; and state and community acceptance.

A comparative analysis of the two remedies based upon these evaluation criteria follows.

Overall Protection of Human Health and the Environment

On-site treatment by thermal desorption provided protection to human health by treating the contaminated soil. After re-mobilization of a thermal desorption unit, it is anticipated that it would take approximately twelve weeks to complete the remedy. As a component of the thermal desorption remedy, soils with concentrations of PCBs above the 2 mg/kg remediation goal but below 25 mg/kg and with carcinogenic PAH concentrations above

their compound specific remediation goals but below 29 mg/kg would remain on the site under a soil cover.

Off-site disposal provides protection of human health and the environment by removing contaminated soil from the site and disposing of it in a secure landfill. This remedy would take approximately two weeks to implement. Only soils that meet the remediation goals as specified in the 1993 ROD will remain on the site; no additional PCB or cPAH contaminated soil would have to be placed under the soil cover.

GLOSSARY OF EVALUATION CRITERIA

Overall Protection of Human Health and the Environment:

This criterion addresses whether or not a remedy provides adequate protection and describes how risks are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

Compliance with ARARs: This criterion addresses whether or not a remedy will meet all of the applicable or relevant and appropriate requirements of other environmental statutes and requirements or provides grounds for a waiver.

Long-Term Effectiveness: This criterion refers to the ability of a remedy to maintain protection of human health and the environment, once cleanup goals have been achieved.

Reduction of Toxicity, Mobility, or Volume through Treatment: This criterion refers to the anticipated performance of the treatment technologies a remedy may employ.

Short-Term Effectiveness: This criterion considers the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.

Cost: This criterion includes capital and operation and maintenance costs.

USEPA Acceptance: This criterion indicates whether, based on its review of the Post-Decision Proposed Plan, USEPA concurs, opposes, or has no comment on the proposed remedies.

Community Acceptance: This criterion will be addressed in the Record of Decision Amendment following a review of the public comments received on the Post-Decision Proposed Plan.

- Compliance with ARARs

Applicable or relevant and appropriate requirements (ARARs) are those federal or state environmental and public health regulations that apply to remedial activities at a site. There are three classifications of ARARs: chemical-specific, which are health- or risk-based concentration limits; location-specific, which are based on

the geographical location of the site and its surroundings; and action-specific, which are controls on particular types of remedial activities.

All ARARs will be met for both the thermal desorption and off-site disposal remedies.

- Long-term Effectiveness

Both the thermal desorption and off-site disposal remedies will protect human health and the environment. Although the thermal desorption remedy offers a higher degree of permanence, the thermal desorption remedy will leave additional amounts of PCB/cPAH contaminated soils with levels above the remediation goals on the site, covered with two feet of clean soil. Under the off-site disposal remedy, soils already placed under the soil cover would remain on site. However, no additional soils containing PCB/cPAHs above remediation goals would be placed under the soil cover on site, thus limiting areas subject to deed restrictions.

- Reduction of Toxicity, Mobility, or Volume

Thermal desorption will reduce the toxicity, mobility and volume in the highly contaminated soils since treatment will occur. Off-site disposal will reduce mobility of the contamination since the soils will be placed in a secured landfill. While off-site disposal will remove the contaminated soils from this site, the toxicity and volume of the contaminated soils will not change.

- Short-term Effectiveness

The potential risks to the surrounding community are minimal for both remedies. However, when the thermal desorption system was operated previously, workers from an adjacent facility made complaints about the odors associated with the treatment. Since off-site disposal would not include treatment, odor complaints would not be an issue. Moreover, off-site disposal will take less time. The time frame for completion of off-site disposal is 2 weeks, while the time frame for completion of thermal desorption is 12 weeks.

- Implementability

Off-site disposal is technically feasible, there are no issues regarding the implementability of this remedy that must be addressed, and the remedy would not add additional waste under the soil cover. Thermal desorption is also technically feasible. However, when other PCB and carcinogenic PAH contaminated soils were previously treated at the site using this technology, complaints related to the odors from the treatment plant were made by workers from an adjacent facility. If the remaining 6,200 tons of soil are to be treated by thermal desorption, the plant may have to operate only when the prevailing winds are northerly in order to avoid these odor complaints.

- Cost

The cost of off-site disposal is considerably less than the on-site treatment. The cost for thermal desorption is estimated to be \$1,885,600. This includes costs associated with mobilizing a new thermal desorber at the site since the previous unit has been removed. The cost for off-site disposal is estimated to be \$639,258. The cost of off-site disposal has significantly decreased since the 1993 ROD, making this remedial alternative more competitive.

- USEPA Acceptance

The USEPA concurs with the proposed change to the PCB/cPAH contaminated soils remedy.

- Community Acceptance

Community acceptance for the proposed remedy will be assessed in the amended Record of Decision following the review of public comments received on the Post-Decision Proposed Plan.

PROPOSED REMEDY

Based on an evaluation of the two remedies, the NJDEP recommends that the existing thermal desorption remedy, selected in the ROD of September 1993, be changed to the off-site disposal remedy.

Off-site disposal will remediate the PCB/cPAH contaminated soils in less time and at a substantially lower cost than thermal desorption.

NEXT STEPS

After the NJDEP has presented the proposed amended remedy at the public meeting and has received any comments and questions during the public comment period, NJDEP will consider and evaluate questions and any comments in a Responsiveness Summary. The Responsiveness Summary will then be appended to the ROD.

In addition to the Responsiveness Summary, the ROD includes a description of the final remedy selected by NJDEP, and the rationale for selecting it.

NJDEP will place the ROD in the Administrative Record file, which will be located at NJDEP and at the local information repository. The Administrative Record file includes all site findings and reports that were instrumental in NJDEP's decision regarding the site remedy.

Table A - Contaminants at the UOP Site and Remediation Goals

<u>Contaminant</u>	<u>Remediation Goal, ppm</u>
For Surface Soil: (0 - 2 feet)	
Carcinogenic PAHs	
Benzo(b)fluoranthene	4
Benzo(a)anthracene	4
Benzo(a)pyrene	0.66
Benzo(k)fluoranthene	4
Chrysene	40
Dibenzo(a,h)anthracene	0.66
Indeno(1,2,3-cd)pyrene	4
PCB	2
For All Soils:	
VOCs (total)	1000
1,1,2,2-Tetrachloroethane	21